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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,109	09/09/2003	Howard T. Barrett	BUR920030106US1	2108

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EXAMINER

DIMYAN, MAGID Y

ART UNIT	PAPER NUMBER
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2825

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,109	Applicant(s) BARRETT ET AL.	
	Examiner Magid Y. Dimyan	Art Unit 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4 -19 and 21-27 is/are rejected.
- 7) ☒ Claim(s) 2,3 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/9/03,9/12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This is with regards to Application No. 10/605,109 filed 09 September 2003.

Claims 1 – 27 remain pending in this Application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 5 - 9, 12 –19, 21 – 22 and 24 - 27 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,330,708 B1 to Parker et al. (hereinafter, “Parker”).**

4. Referring to claims 1, 21 and 27, Parker discloses a method for generating kerf data (claim 1 - see Fig. 1, block 21; col. 3, lines 21 – 34), a system for generating kerf data (claim 21 – see Fig. 1 – col. 2, line 59 – col. 3, line 65), and a computer program product for generating kerf data (see col. 1, lines 10 –55; col. 3, line 66 – col. 4, line 57) that include: submitting chip data for chip processing (Fig. 1; col. 1, lines 10 – 38); generating kerf data corresponding to the chip data (col. 3, lines 21 – 45; col. 4, lines 45 – 57); and manipulating the kerf data by use of kerf processing using the same manipulation process as for the chip data (col. 1, lines 25 – 38; col. 3, lines 52 – 57). Thus, it is clear that Parker recites all the claimed limitations.

5. Pursuant to claims 5 – 7 and 9, see (4) above, as well as Fig. 1, blocks 11, 12, 13, 30; col. 4, line 50 – col. 5, line 35; col. 12, lines 50 – 63, which teach all the claimed

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limitations pertaining to the sharing of mask orders (col. 12, lines 50 – 63), accessing the mask order information from a file or database (col. 5, lines 27 – 35), using substantially the same version of manipulation software for the kerf and chip data (col. 12, lines 50 – 63), and producing kerf test structures for wafer testing (col. 3, lines 21 – 33).

6. As to claim 8, see Fig. 1, block 26; col. 2, lines 35 – 48; col. 4, lines 7 – 16, which show how load balancing via a Load Leveler is accomplished, as claimed.

7. Regarding claim 12, see also col. 2, lines 10 – 48 which cite how the manipulating step and the generating step can be done concurrently with chip processing, as claimed.

8. As per claim 13, see col. 3, lines 21 – 65, which disclose how the chip design image and the kerf design image are consistently produced, as claimed.

9. Referring to claim 14, see Fig. 1, blocks 31, 35 and 36; col. 3, line 28 – col. 4, line 16, which teach all the claimed elements of archiving the manipulated kerf data, and updating the processing information to help in debugging.

10. Regarding claim 15, Parker cites a method for generating kerf data comprising: executing design manipulation utilities for at least chip data design manipulation (see (4) above); creating a kerf design build utilities file by assembling kerf features previously designed and stored in a library (see col. 12, lines 50 - 63); and creating/manipulating kerf and design data concurrently by using same parameters to ensure that the kerf and chip design data are consistent (see col. 3, lines 51 – 57; col. 12, lines 50 – 63). Thus, Parker clearly recites all the claimed limitations.

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11. Pursuant to claims 16 and 17, see also col. 5, line 28 – col. 8, line 43, which cite all the claimed limitations regarding shrinkage, expansion, and derivation of new data levels of the design data, as well as including process assist features for device enhancements, and addition of nonfunctional shapes.

12. As per claims 18 and 19, see (4) – (10) above, which teach (claim 18) how the design data is archived (see also Fig. 1, blocks 23, 26; col. 3, line 66 – col. 4, line 21), and how the information is created (claim 19) from a previously created file (see also Fig. 2; col. 4, lines 2 – col. 5, line 35).

13. Claim 22 contain the same limitations found in claims 2 and 3, and therefore the same rejections also apply.

14. As for claim 24, see again col. 12, lines 50 – 67, which teach how the mask order information is shared between all components.

15. Claims 25 and 26 contain the same limitations as in claims 13 and 9, respectively, and thus the same rejections apply.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. **Claims 4, 10, 11 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker in view of Chiang et al. ("From CIF to Chips", 1989 IEEE Eighth Biennial University/ Government/Industry Symposium Proceedings).**

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18. As for claims 4, 10, 11 and 23, Parker teaches the methodology for generating kerf data by submitting chip data for processing and manipulating the kerf data, as recited above.

Parker does not specifically disclose the claimed elements of using a graphical user interface (GUI), or communicating by email in order to facilitate debugging and reduce mean time to repair to reduce cycle time for the kerf processing, as claimed.

Chiang et al. disclose a VLSI design platform that uses a GUI interface (see page 156, section entitle "**Background**") and includes means for communicating via email to send error messages to all parties on the mailing list in order to improve debugging and reduce cycle time (see page 158, section entitled "**The Fabrication Interface Service**").

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Parker and Chiang et al. because using a GUI and email facilities (which are both very well known and commonly used in the art) would enhance and facilitate the debugging and characterization process cited by Parker.

Allowable Subject Matter

19. Claims 2, 3 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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20. The following is a statement of reasons for the indication of allowable subject matter: prior art does not teach, or suggest, the claimed method for generating kerf data that further include a just-in-time kerf building substantially immediately prior to mask order so that multiple versions of kerf design images can be avoided.

Furthermore, prior art does not teach, or suggest, the claimed method of submitting the kerf design data to validation checks to ensure that the combination of kerf design grid and chip design grid prevents grid snapping at the mask write tool.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magid Y. Dimyan whose telephone number is (571) 272-1889. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ^{JACK CHIANG}~~Matthew S. Smith~~ can be reached on (571) 272-⁷⁴⁸³~~1907~~. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Magid Y Dimyan
Examiner
Art Unit 2825

myd
30 November 2005



A. M. Thompson
Primary Examiner
Technology Center 2800

